ECONOMIC INTELLIGENCE REPORT

THE VOLUME AND CHARACTER
OF SOVIET-FLAG OCEAN TRAFFIC

CIA/RR 17

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CENTRAL INTELLIGENCE AGENCY

OFFICE OF RESEARCH AND REPORTS

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(ORR Project 11-51)

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THE VOLUME AND CHARACTER
OF SOVIET-FLAG OCEAN TRAFFIC*

Summary and Conclusions

The Soviet merchant marine, comprising 566 ships and totaling
1,952,822 gross registered tons (GRT), is a negligible factor in world
ocean transport and even inadequate for both the actual and the planned
deep-sea transport requirements of the USSR. In competitive commercial
operations it would be completely outclassed in speed, size, age, and
type of motive power. Nearly one-half of the merchant fleet is in the
1,000- to 2,500-GRT class and is suitable only for small-scale coastal
operations. Sixty-five percent of the fleet is obsolescent, being over
20 years old. One-fifth of the fleet (one-third of the newer vessels)
consists of Lend-Lease ships; if these were returned to the US, the loss
would cripple Soviet merchant shipping operations. Sixty percent of the
fleet burns coal rather than the more efficient fuel oil. In contrast,
only about 20 percent of the world's merchant shipping still uses coal.

Soviet shipping operations are inefficient by Western standards,
involving delayed sailings, sailings in ballast to pick up foreign
cargoes, and generally poor cargo-handling practices. The cargo-carry-
ing potential of the Soviet merchant fleet, which can be assessed only
with a 20- to 30-percent margin of error, is estimated at about 214
billion ton-kilometers annually, or more than five times the estimated
performance for 1951.

There is little evidence of domestic construction of Soviet ocean-
going tonnage. Present acquisitions from the West and Satellite coun-
tries (50,000 to 100,000 GRT annually) are not sufficient to improve
significantly the over-all capabilities of the merchant fleet. About
one-quarter of the existing Soviet fleet tonnage, moreover, is over 30
years old and may be expected to deteriorate at a rapidly increasing
rate. However, on the assumption that all vessels in the Soviet fleet
are kept operational and that the annual net increase to the fleet is
75,000 GRT of 12-knot Western or Satellite shipping, the cargo-carrying
potential of the Soviet fleet will be increased by about 4 percent
annually. On the basis of the ton-kilometer potential (214 billion ton-
kilometers) the annual increase would be on the order of 8.5 billion ton-
kilometers annually. The ratio of the actual ton-kilometer performance

* This report contains information available to CIA as of 15 September 1952.

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to the potential indicates that the actual increase probably will fall far short of the theoretical 8.5 billion ton-kilometers and will approximate 3 billion.

The combined cargo-handling capacities of 74 selected Soviet ports distributed throughout the 4 principal areas of shipping activity (Arctic, Baltic, Black Sea, and Pacific) total 357,000 metric tons per day. The Baltic and Black Sea areas account for nearly two-thirds of the total capacity. Most Soviet ports would be considered to be inefficient by Western standards. Wharves and warehouses usually are in bad condition, utilization of machinery is poor, and dockside labor is inferior in quality. Ports are, however, being mechanized to a greater extent, and operating efficiency is reportedly rising.

Despite the emphasis placed by the USSR on carriage of ocean-borne foreign trade in Soviet bottoms, the greater part of such traffic moves in non-Soviet vessels. On the assumption that domestic cargoes accounted for 90 percent of the traffic performance of the ocean fleet in 1950, or 34 billion ton-kilometers, Soviet-flag ocean traffic with foreign countries totaled only about 4 billion ton-kilometers. (The volume of exports carried in Soviet ships is estimated to exceed the volume of imports by a wide margin, perhaps 4 to 1.) The transport of domestic cargoes between Soviet ports remains the major task of the Soviet fleet. On the basis of analysis of Soviet source data it is estimated that Soviet-flag ocean traffic in 1951 approximated 34 million metric tons.

The nature of ocean-borne traffic between the USSR and foreign ports consists, broadly speaking, of exported bulk raw materials in exchange for manufactured goods. In its dealings with the West the USSR attempts to move in Soviet vessels manufactured goods of high value, leaving the less valuable bulk cargoes to Western shipping.

The trend in ocean freight traffic as reported by Soviet sources has been steadily upward. In 1949 this traffic was 15 percent higher than in 1948, and in 1950 it exceeded that of 1949 by 9 percent. The planned increase of 8 percent in 1951 over 1950 was met. In general, however, the fleet performance is unsatisfactory to the USSR. Freight turnover was scheduled to increase by 220 percent in 1950 over 1940, but the actual increase was only 65 percent. Although ton-kilometer performance in 1950 exceeded that of 1940 by 65 percent, the actual tons of cargo carried by Soviet-flag vessels only slightly exceeded the 30.3 million metric tons carried in 1938.

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Although the Soviet ocean fleet carries only about 6 percent of the total Soviet traffic load, it nevertheless makes an important contribution to the Soviet economy. Soviet shipping operations over the Northern Sea Route make possible the economic expansion now under way in the Arctic and North Pacific areas. The hauling of bulk raw materials from the Black Sea to the Far East by sea contributes to the capability of the Trans-Siberian Railroad to transport high-priority industrial products and war material to Communist China.

I. Traffic Capabilities of the Soviet Merchant Fleet.

A. Size and Quality.

The Soviet merchant marine late in 1951 comprised 566 ships of 1,952,822 gross registered tons (GRT). Freighters constitute the largest tonnage group, with combination passenger-cargo ships next. The tonnage of the fleet by type of vessel is given in Table 1.

Table 1

Tonnage of the Soviet Merchant Fleet by Type of Vessel 1/*
1951

Type of Vessel	Number of Vessels	GRT
Freighter	454	1,455,999
Passenger-Cargo	63	309,916
Tanker	32	125,150
Other	17	61,757
Total	566	1,952,822

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The Soviet merchant fleet is a negligible factor in world ocean transport. By Western standards it is even inadequate for both the actual and the planned deep-sea transport requirements of the USSR. Its quality is extremely poor, lay-up and repair time accounting for much of the potential operating time. Vessels in operation, furthermore, generally are in poor-to-foul condition both as to operating efficiency and as to upkeep.

The poor quality of the Soviet merchant fleet is clearly brought out by an analysis of the important factors of speed, size, age, and type of motive power.

The speed of the fleet is shown in Table 2 (withdrawal of Lend-Lease tonnage would significantly lower the average speed of the fleet).

Table 2

Rated Speed of the Soviet Merchant Fleet 2/
1951

Knots	Number of Vessels	Percent of Total
Under 10	190	34
10 to 12	320	57
13 to 15	37	7
16 to 18	12	2
Over 18	2	Negligible
Total	566	100

It is apparent from the data on speed that the Soviet merchant fleet is much too slow for efficient operation and would be completely outclassed if used in competitive commercial operations.

The small size of the average Soviet-flag merchant ship is another key to the quality of the fleet. Nearly one-half of the fleet is in the 1,000- to 2,500-GRT class, primarily suitable for small-scale coastal operations, and the 5,000- to 7,500-GRT group (the tonnage class of most of the Lend-Lease vessels), highly suitable for general trading, accounts for one-fifth of the number of vessels in the fleet. Under 5 percent of the fleet

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is in the 7,500- to 10,000-GRT class, and ships over 10,000 GRT constitute
about 2 percent. The size of the fleet is shown in Table 3. Very little

Table 3

The Soviet Merchant Fleet by Category of Tonnage 3/
1951

GRT	Number of Vessels	Percent of Total
1,000 to 2,499	276	49
2,500 to 4,999	155	27
5,000 to 7,499	113	20
7,500 to 9,999	13	2
Over 10,000	9	2
Total	566	100

of the Soviet merchant fleet is in the relatively more economical large-
ship class, whereas among Western owners the postwar trend has been con-
sistently toward larger vessels to offset constantly rising operating
costs.

The average Soviet-flag merchant ship is well over the generally
accepted age standards for efficient operations. Sixty-five percent of
the ships in the Soviet fleet are over 20 years old, thus rendering them,
by Western standards, obsolete or at best obsolescent. Over one-third
of the newer vessels are US-owned Liberty ships, which the USSR continues
to retain and operate despite vigorous US protests for repossession. The
fact that the loss of these ships would cripple Soviet-flag merchant ship-
ping operations probably accounts for the USSR's intransigeance in the
matter. Table 4* summarizes the age of the Soviet fleet.

Another indication of the poor quality of the Soviet merchant fleet
lies in the fact that 60 percent of it burns coal, whereas only 40 percent
of the ships use the more efficient fuel oil for their propulsion. Although
a newly built coal-fired ship probably would be more efficient than a 30-
year-old oil-burning ship, a majority of the USSR's coal-burning ships are
old and inefficient. In contrast to the use of coal for such a large part

* Table 4 follows on p. 6.

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Table 4

Age of the Soviet Merchant Fleet 4/
1951

Age of Vessel	Number of Vessels	Percent of Total
Under 5 Years	34	6
5 to 10 Years	75	13
10 to 15 Years	44	8
15 to 20 Years	46	8
20 to 30 Years	117	21
Over 30 Years	250	44
Total	566	100

of the Soviet fleet, only about 20 percent of the tonnage of the world merchant marine now depends on coal for fuel. 5/

Other indications of the poor quality of the Soviet merchant fleet are found in examination of reports on Soviet ship operations and cargo-handling. There are numerous reports of apparently uneconomic voyages, delays in sailings, sailings in ballast to pick up foreign cargoes, poor handling of loading and discharging operations, and various other practices to confirm the impression that the Soviet merchant fleet could never survive in free competition with Western shipping.

B. Distribution.

The Soviet merchant marine is organized into four distinct operating areas. These are, in the order of their tonnage assignment, the Pacific, the Baltic, the Black Sea, and the Arctic areas. The volume of tonnage assigned to each component of the merchant fleet naturally varies from time to time, but there has been a noticeable trend toward building up the Pacific area at the expense of the others. Table 5* shows the trend in the distribution of gross tonnage.

The distribution of the Soviet merchant fleet by type is based on variations in the requirements of the several areas. For example, the smaller ships operate in the Baltic, where short coastal runs are the

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* Table 5 follows on p. 7.

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Table 5

Trend in Distribution of the Soviet Merchant Fleet 6/
1949 and 1951

| | Percentage of Gross Tonnage Assigned to Areas | | | | | | | |
| | Baltic | | Arctic | | Black Sea | | Pacific | |
Type of Vessel	1949 a/	1951	1949	1951	1949	1951	1949	1951
Freighter	30.6	20.9		6.6	12.0	13.0	57.4	59.5
Passenger-Cargo	21.2	26.8		3.3	38.3	32.1	40.5	37.8
Tanker	5.5	5.9		1.3	72.2	40.6	22.3	52.2
Other	0.0	0.0		10.8	55.8	25.7	44.2	63.5
Percent of Total, All Types	26.6	20.2		5.9	21.8	18.2	51.6	55.7

a. Includes Arctic.

pattern, whereas the larger ships are in the Black Sea and the Pacific, where many longer voyages originate. The larger tankers and passenger ships are assigned, for the most part, to the Black Sea and the Pacific, where fuel oil bunkers are readily available. Coal burners operate in the oil-short Baltic area.

C. Over-All and Regional Capacities of the Merchant Fleet and of Port Facilities.

1. Merchant Fleet.

The cargo-carrying capacity of the Soviet merchant fleet is difficult to determine with any degree of accuracy. Such an estimate will necessarily be subject to an error of as much as 20 to 30 percent. Important factors such as cruising speeds, operating schedules, and cargo-lifting ability are not known with sufficient exactness to make accurate calculations of cargo-carrying capacity or ton-kilometer potential.*

* Ton-kilometer potential is computed by multiplying cargo-lift capacity by the estimated distance traveled during a given period.

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On the basis of reasonably accurate information, however, it is possible to establish some measure of cargo-carrying potential. For example, in 1949 the cargo lift of the Soviet merchant fleet approximated 2.5 million long tons. 7/ The lift capacity is believed to have increased very little in the past 3 years. The merchant fleet is estimated to operate about 240 days annually at an average cruising speed of 8 knots. 8/ On the basis of these general assumptions the present cargo-carrying potential of the fleet can be calculated at about 214 billion ton-kilometers, or more than five times the performance estimated for 1951.

The cargo-carrying potential by region follows closely the cargo ship tonnage allocation to the various regions. That is, the Pacific fleet, with about 60 percent of all freighter tonnage, has the same percentage of the total cargo-carrying potential, or 128 billion ton-kilometers, and the Baltic area has about 21 percent of the total potential, or 45 billion ton-kilometers. The Black Sea accounts for 12 percent of the total, or 27 billion ton-kilometers, while the Arctic fleet has less than 7 percent of the total potential, or 14 billion ton-kilometers.

2. Port Facilities.

The USSR has a number of good seaports on all its coasts. In addition to a large number of landings, inlets, and bays where cargoes can be handled, there are from 50 to 60 harbors of sufficient importance to be listed as ports of some consequence (the estimated capacities of selected ports are shown in Appendix A). The cargo-handling capacity of some Soviet ports is negligible, but these ports are very important to merchant shipping operations in certain areas, particularly along the Northern Sea Route, where the capacity of most Arctic ports east of Archangel would be considered trivial by Western standards.

The estimated cargo-handling capacities of 74 Soviet ports and harbors by areas are shown in Table 6.*

Analysis of the geographic distribution of ports and of available data on their estimated capacities confirms the general impression that the Baltic and Black Sea ports are by far the most important in the USSR in terms of the ability to handle cargo. For example, 7 of 12 Baltic ports can handle 10,000 long tons or more per day, and 3 Black Sea ports can handle over 10,000 long tons per day. On the other hand, in the Pacific only two ports can handle as much as 10,000 long tons per day, and in the strategically important Arctic area only one can handle as much as 10,000 long tons.

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* Table 6 follows on p. 9.

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Table 6

Cargo-Handling Capacity of Selected Soviet Maritime Ports by Areas 9/
1952

		Long Tons of Cargo per Day a/				
Area	Number of Ports	10,000 and Over	5,000- 9,999	2,500- 4,999	1,000- 2,499	Under 1,000
Arctic	23	1	1	3	6	12
Baltic	12	7	2	0	0	3
Black Sea	20	3	4	7	4	2
Pacific	19	2	2	4	4	7
Total	74	13	9	14	14	24

a. Estimated on the basis of 100 long tons of military cargo handled through each ship hatch per 20-hour day.

The combined capacity of the Soviet ports for which data are available is 357,900 long tons per day. This capacity is concentrated in the Baltic and Black Sea areas, which account for nearly two-thirds of the total for the ports listed. The Baltic ports account for 142,500 long tons, and the Black Sea for 82,500 long tons. The capacity of the Pacific ports totals 68,800 long tons, and Arctic ports listed can handle 64,100 long tons of cargo per day.

Most Soviet ports would be considered to be inefficient by Western standards. Wharves and warehouses usually are in bad condition, utilization of machinery is poor, and equipment is frequently idle or breaks down after being carelessly used by inferior help. Ports are, however, being mechanized as fast as possible, and efficiency of operation is rising.

Mechanized loading operations at Soviet ports are reported to have increased considerably during the Fourth Five Year Plan (1946-50). The average mechanization level for ports of the Ministry of the Maritime Fleet as a whole reached 88 percent in 1950, considerably surpassing the 1940 level of 65.9 percent. 10/ In spite of this high degree of mechanization, however, general cargo is still handled largely by manual methods,

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and mechanization of this kind of work is being developed very slowly.

Bulk freight, on the other hand, such as coal, ore, and salt, is unloaded with special-type wide-jaw grab buckets which service up to 50 percent of the hold area and unload 60 to 80 percent of the contents of single-deck ships.* Many ports use scoops for unloading grain from ships' holds. This equipment also can be used for unloading sand, fine coal, and similar bulk freight.

Fork lifts, light portable conveyers, and other machines for mechanized loading and unloading of mixed freight generally are employed in major ports such as Leningrad and Odessa for various kinds of mixed freight. The packaging of mixed freight into larger bundles for handling and storage also is helping to make freight handling more efficient. Small half-ton fork lifts which can load ship cargoes into freight cars are being developed. Mechanical shovels and small conveyers also are used in loading and unloading operations between ships and railroad cars. (Leningrad uses portable duralumin conveyers for smaller mixed freight.) In addition to the above machines, a special-type loader for coal, a hold bulldozer, a new-type overhead crane, and other machines are now being developed for cargo-handling. 11/

Loading and unloading equipment on the docks and in warehouses and storage areas also are receiving attention. Caterpillar-mounted cranes, truck cranes, fork lifts, electric trucks, small tractors and trailers, and other equipment are being used in many Soviet ports for work in such areas. In 1950 the daily average for cargo-handling is reported to have increased 29 percent over 1940 and 150 percent over 1946. This increase also may be attributed to extensive restoration of war damage. 12/ An improvement in labor efficiency has been noted by the Ministry of the Maritime Fleet, which asserts that 40 percent of all freight was loaded by "fast methods" in 1950 and that in some ports from 50 to 75 percent of loadings were accomplished in this way.

3. Trends.

There is little or no evidence of significant domestic construction of ocean-going tonnage in the USSR. Present acquisitions from the West and the Satellite countries (50,000 to 100,000 GRT annually) are not sufficient to improve significantly the over-all capabilities of the Soviet merchant fleet. About one-quarter of the existing tonnage of the merchant

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* Three-cubic-meter coal grab buckets are said to be in series production at the Zhdanov plant of the Ministry of the Maritime Fleet.

fleet, moreover, is over 30 years old 13/ and may be expected to deteriorate at a rapidly increasing rate. However, assuming that all vessels in the Soviet fleet are kept operational and that the annual net increase to the fleet is 75,000 GRT of 12-knot Western or Satellite shipping, the cargo-carrying potential of the Soviet fleet will be increased by about 4 percent annually. On the basis of the ton-kilometer potential shown above (214 billion ton-kilometers), the annual increase would be about 8.5 billion ton-kilometers annually. The ratio of the actual ton-kilometer performance to the potential computed above, however, indicates that the actual increase probably will fall far short of the theoretical 8.5 billion ton-kilometers and will approximate 3 billion.

The increased capacity probably would conform closely to the present distribution of fleet tonnage, slightly more than half being allocated to the Pacific, about a fifth to the Baltic, a fifth to the Black Sea, and about 5 percent to the Arctic.

It can be generally estimated that the capacity of Soviet ports will increase. The rate of expansion will, however, vary considerably between the various areas. For instance, the ports in the Baltic are not likely to expand relatively as much as ports in the Arctic and the Pacific. Port expansion in the Baltic probably will be greatest in the areas acquired by the USSR since World War II (Estonia, Latvia, Lithuania, and East Prussia), while ports in the old territorial limits of the USSR probably will remain at about their present capacities, with some increase in capabilities brought about by continued elimination of war damage (large areas of some ports in the Baltic still are unusable because of hulks and damaged quays).

In the Arctic there is likely to be considerable expansion of ports such as Molotovsk, Igarka, and Anadyr', where present capacities probably are insufficient to handle adequately even the limited volume of freight now moving over the Northern Sea Route.

The present capacity of Black Sea ports is not likely to be significantly expanded. The area now has a number of excellent ports which probably are capable of handling any projected increase in the volume of bulk export cargoes such as grain and ores. Emphasis will be placed upon continued elimination of extensive war damage.

Expansion of Soviet industrial activity in the Pacific will lead to some increase in the cargo-handling capacity of ports in that area such as Magadan (Nagayevo), Nikolayevsk, and Komsomol'sk, the present cargo-handling facilities of which are low by Western standards. Ports to

the south probably also will be expanded in line with increasing Sino-Soviet commercial relations. The port of Vladivostok, however, will show little change in capacity, though efforts to improve the poor condition of this key Pacific port will continue. On the other hand, the neighboring port of Nakhodka, which the USSR is apparently developing for use by foreign shipping, probably will be expanded above its present capacity of 9,000 long tons a day.

II. Soviet-Flag Merchant Shipping Operations.

    A. Historical Trends.

        Trade with the USSR has always been carried on principally by sea. Table 7 illustrates the relative importance of land and sea transport engaged in such trade prior to World War II.

Table 7

Russian (Soviet) Foreign Trade by Land and by Sea 14/
1913, 1929, 1932, and 1937

	Percent of Exports or Imports			
	Exports		Imports	
Year	Land	Sea	Land	Sea
1913	21.7	78.3	39.2	60.8
1929	15.6	84.4	37.4	62.6
1932	6.0	94.0	17.7	82.3
1937	6.6	93.4	15.4	84.6

        Transportation of a major portion of national trade in national-flag bottoms has always been an objective of the Soviet regime as it was of the Czarist regime. Only comparatively recently, however, has an appreciable increase been noted in the proportion of Soviet ocean traffic carried in Soviet ships. This trend does not reflect an increase in tonnages lifted in Soviet ships but rather points to the decrease in tonnages carried in non-Soviet vessels. In 1913, for example, only about 8 percent of all exports and 14 percent of all imports were carried in Russian bottoms and amounted to 36.9 million metric tons. By 1936, although 30 percent of all exports and 82 percent of all imports were

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carried by Soviet shipping, the total tonnage lifted by Soviet shipping was probably no greater than in 1913 and may indeed have been less. (It is reported that in 1938 the tonnage lifted by Soviet-flag ocean shipping totaled 30.4 million metric tons, 15/ probably excluding small-tonnage coastal shipping.)

Despite the emphasis placed by the USSR on carriage of its ocean-borne foreign trade in national-flag bottoms, the major task of the ocean fleet is the transport of domestic cargoes between Soviet ports. There do not appear to be any recent reliable data on the distribution of traffic between foreign and domestic operations, but coastal and intercoastal traffic far exceeds foreign trade in both tonnages lifted and ton-kilometer performance. In 1936, for example, one of the last years for which detailed traffic data are available, total domestic ocean-borne traffic (largely carried in Soviet bottoms) totaled 23.2 million metric tons as compared with 14.8 million metric tons of foreign trade (about half of which was carried in foreign bottoms). 16/

B. Volume and Nature.

    1. Volume.

The USSR has issued no detailed statistics on either the volume or the nature of its maritime trade since before World War II. Such data as are available on the volume of ocean traffic are derived from prewar statistics, evaluations of the percentage of fulfillment statistics issued by the USSR, and attempts to consolidate the fragmentary intelligence gleaned from Soviet sources (such as press, radio, and technical reports) and Western surveillance of Soviet merchant shipping operations.

Although it is impossible to determine the present volume of cargoes moved in Soviet-flag ships, certain estimates of the volume can be made within specified ranges. On the basis of analysis and interpretation of Soviet source data it appears that the volume of Soviet-flag ocean traffic in 1951 approximated 34 million metric tons. (This estimate is computed by dividing the estimate of 1950 ton-kilometer performance by the planned average length of haul in 1950, adjusted for the reported increase of 1951 ton-kilometer performance over 1950.)

The volume of foreign trade carried in Soviet-flag vessels in 1951 is estimated to have amounted to about 5 million metric tons. (This rough estimate is made on the following basis. In 1937 the port of Leningrad accounted for 26 percent of all sea-borne import traffic and 21 percent of all sea-borne export traffic through Soviet ports. In that year

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Leningrad handled some 370,000 short tons of imports and 3 million short tons of exports. 17/ It is thus indicated that total sea-borne import traffic amounted to about 1.4 million short tons and total sea-borne export traffic to about 15 million short tons. In 1937, furthermore, the Soviet fleet carried about 82 percent of all sea-borne imports, and about 30 percent of all sea-borne exports, 18/ or about 1.2 million metric tons of imports and 4.5 million metric tons of exports, out of a total sea-borne traffic of 29.4 million metric tons. 19/ Allowance being made for a postwar decline in Soviet foreign trade, partially offset by a rise in the percentage handled by the Soviet fleet, foreign trade carried in Soviet-flag vessels in 1951 may have amounted to about 1 million metric tons of imports and 4 million metric tons of exports.)

The regional distribution of Soviet merchant shipping activity by volume handled can be reasonably approximated as follows.

a. Baltic.

the Baltic area accounts not only for the highest volume of actual cargo tonnages lifted to and from the USSR but also for the largest portion of total Soviet-flag traffic. Northern Sea Route cargoes also come out through the Baltic. Of the estimated total of 34 million metric tons lifted in 1951, it is possible that between 40 and 60 percent traversed the Baltic.

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b. Black Sea.

The Black Sea area is extremely active and probably accounts for the next largest portion of Soviet-flag ocean traffic. Except for some relatively unimportant Turkish trade, Soviet-flag ocean traffic in the Black Sea consists of intra-Soviet and Soviet-Satellite shipments. The Black Sea certainly accounts for at least 9 million metric tons of the estimated 1951 total of 34 million metric tons of ocean freight carried in Soviet vessels.

c. Pacific.

Although the largest part of the Soviet merchant fleet is in the Pacific area (Far East), traffic in that area probably is less than in any other major area. Factors influencing this estimate are prevailing weather conditions, lack of industrialization, and the absence of large-scale trading partners. The Pacific probably accounts for no more than 7 million metric tons of the estimated total of 34 million metric tons of total Soviet traffic lifted in 1951.

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d. **Arctic.**

The Arctic area is open to traffic for only from 12 to 14 weeks per year. It is estimated that from 300,000 to not more than 600,000 metric tons of Soviet-flag cargo annually moves over the Northern Sea Route in the Arctic area.

2. **Nature.**

The nature of Soviet-flag ocean traffic varies appreciably according to the origin and destination of such cargoes. Traffic with other Soviet ports consists largely of raw materials and bulk cargoes such as lumber, grain, coal, and ores. There is, however, a considerable volume of industrial goods moving in Soviet ships from industrial centers such as Leningrad, Odessa, and Komsomol'sk to consuming centers in the USSR. Traffic with the Satellites in Soviet-flag ships consists largely of raw material exports (with a minimum of manufactured goods) in exchange for consumer goods and industrial products. In its dealing with the West the USSR attempts to move its manufactured goods, furs, and other high-value low-weight cargoes in its own vessels, leaving the bulky, less valuable cargoes to Western ships. Imports from the West are generally moved in Soviet bottoms, since these are predominantly manufactured goods or relatively valuable bulk cargoes such as rubber or cork.   50X1-HUM

a. **Volume.**

Despite the absence of organized information, certain conclusions can be reached as to the volume of Soviet-flag domestic traffic. Relatively few Soviet vessels (about 10 percent) operate into non-Soviet Bloc ports, and the bulk of the fleet trades either in domestic or in Bloc waters. Domestic traffic may actually have accounted for 90 percent of the annual ton-kilometer performance (38 billion ton-kilometers) of the Soviet merchant fleet in 1950. It is apparent, therefore, that, even allowing for laid-up tonnage and other factors reducing the amount of shipping available for active service, the volume of domestic traffic far exceeds foreign traffic. On the assumption that domestic cargoes accounted for 90 percent

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of the traffic performance of the ocean fleet, it appears that such traffic approximated 34 billion ton-kilometers, while all other Soviet ocean traffic totaled only about 4 billion ton-kilometers.

The area comprising the Baltic Sea and Gulf of Finland probably accounts for a major part of the import and export traffic. Considerable activity is apparent between Leningrad, Tallinn, Riga, Liepaja, and Klaipeda. There is a substantial volume of trade exchanged between this area and the Black Sea ports. The Arctic ports also contribute a small volume of traffic to Soviet ports on the Baltic Sea or in the Gulf of Finland.

In addition to substantial traffic between the Black Sea ports of Odessa, Rostov, Novorossiysk, Poti, and Batumi, a considerable amount of tonnage (grain, ores, oil) moves from the Black Sea area to Soviet ports in the Northwest and Far East areas. (Recent data are not available on the total volume of traffic, but in the prewar years the Black Sea ports led all other regions of the USSR in volume of exports.)

The volume of Pacific traffic is largely confined to a few ports. Vladivostok is the center of such traffic, being the main Pacific port of destination for traffic from the Baltic and Black Sea ports. From Vladivostok, relatively large tonnages go to Anadyr', Sovetskaya Gavan', Magadan (Nagayevo), and Okhotsk on the mainland to the north, to Petropavlovsk on the Kamchatka Peninsula, and to the Sakhalin Island ports. The volume of traffic exchanged between the ports north of Vladivostok appears to be relatively slight.

b. Nature.

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Certain tentative conclusions in regard to domestic trade patterns, can be drawn from such limited evidence. For example, it is apparent that flour from Odessa or Novorossiysk to Vladivostok is a large item in Soviet-flag ocean traffic. Likewise, cement from Novorossiysk moves to Leningrad and Vladivostok. Industrial products of Leningrad go via ocean transport to Black Sea ports, while Black Sea oil moves to Vladivostok.

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In addition to the foregoing typical long-distance traffic movements, there is considerable activity in regional merchant shipping. The nature of domestic traffic varies considerably from one region of the USSR to the other. Export traffic obviously reflects the character of regional production, but imports vary according to the particular needs of the various areas.

In the Arctic, export traffic consists largely of lumber, fish, minerals, and coal, while imports consist of foodstuffs and capital equipment. The main ports are Murmansk, Archangel, Molotovsk, and Igarka. The chief exports of Murmansk are lumber, fisheries products, and some minerals. Murmansk import traffic appears to be limited largely to capital equipment and general cargoes sufficient to support the minimum requirements of the inhabitants of the port and surrounding area. For that reason, therefore, a comparison of the volume of exports and imports through Murmansk would reveal a great disparity in favor of exports. Archangel, the center for Soviet lumber exports, accounts for one-third of all such movements. [20] Another lumber export center is Molotovsk, a relatively new port reflecting Soviet interest in developing the Northern areas. About midway along the Northern Sea Route on the Yenisey River, Igarka, the largest city in Siberia north of the Arctic Circle, is probably the most important commercial port along the route. The domestic export trade of Igarka consists almost entirely of lumber and timber. Provideniye, lying at a comparatively short distance from Bering Strait and Alaska, is of particular economic and strategic significance in the Soviet Far East. Coal of very good quality is brought by small craft from the shallow waters of Kresta Gulf to the well-enclosed deep-water harbor of Provideniye for transshipment in larger ships to Vladivostok. Provideniye also exports furs which are brought from the interior and imports foodstuffs from Vladivostok.

In the Baltic, Leningrad, Riga, Liepaja, and Ventspils are major ports for export and import traffic. Leningrad is the chief port of the USSR, presently accounting for a large part of all import trade and about 25 percent of all Soviet exports (about 20 percent in 1937). Although a great variety of goods, raw materials as well as finished products, move from Leningrad, lumber, pulpwood, and grain constitute the bulk of the export trade, with machinery and industrial goods making up the most import traffic. [21] Riga, the largest city in the Baltic region, was lost to the USSR between World War I and World War II. Since the assimilation of Latvia, however, Riga has become an important port in Soviet domestic trade, especially in exports. Although the city is a center for manufacturing machinery of various kinds, its water-borne exports are primarily lumber, paper, and other forest products. Liepaja is the second largest port in the Latvian SSR and has one great advantage over Riga in that it is ice-free

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nearly all the year. The chief domestic exports of Liepaja are grain and
lumber to Soviet Baltic ports and Leningrad. The port of Ventspils, also
in the Latvian SSR, is an industrial city (sawmills, cordage, glass
products), but, like most other ports on the Baltic, its export traffic
is primarily lumber, grain, and agricultural products.

Important Black Sea ports are Odessa, the leading port;
Novorossiysk; Poti; and Batumi. Grain from the Ukraine to all parts of
the USSR is the principal outbound cargo, but the export trade of Odessa
also covers a wide range of general goods. A study of traffic through
the port of Odessa would reveal that exports predominate by at least two
to one. In 1937, for example, exports from Odessa to foreign and domes-
tic ports totaled 392,674 short tons as compared with imports of 140,744
short tons in that year. 22/ Although this port is important for export
traffic (2.75 percent of all Soviet export tonnage in 1937), the importance
of its import trade can be gauged by the fact that in the same year 9.93
percent of all Soviet import tonnage entered through Odessa. 23/ The port
of Novorossiysk is significant in Soviet domestic trade mainly for the
export of Kuban wheat and cement from local milling plants. (Novorossiysk
is the principal cement-milling center of the USSR, 24/ and cement is
shipped in large quantities to areas throughout the USSR.) The export
traffic of Poti is devoted almost entirely to manganese ores from the
Chiatura region of the Georgian SSR. Batumi, like Poti, is a "one-cargo
port," its main export being oil from the Baku fields. Industrial goods
and light manufactured products travel from Odessa to Batumi.

In the Pacific, Vladivostok, the Far East terminus of the
Trans-Siberian Railroad, is the heart of all Soviet trade operations in
the region. Foodstuffs, machinery, and other goods are imported from the
Western USSR, and fish from ports in the Bering Sea and the Sea of Okhotsk.
Imports probably are as great as exports because of transshipping traffic.
Among the major exports of Vladivostok are raw soybeans and soybean products,
timber, and fisheries products. Import activity is greatest in spring,
export trade in autumn. During winter the port is greatly hampered by ice,
but icebreakers keep the harbor open. Nakhodka is an auxiliary to the port
of Vladivostok and is being developed as a terminal for Western-flag ships
to prevent surveillance of activities at Vladivostok. Nakhodka imports
explosives for construction work and is known to be a distributing point for
forced labor and to import foodstuffs and materials for concentration camps.
Exports from Nikolayevsk include large quantities of fish (salmon) and
timber, and oil is imported from Sakhalin. The principal commodity exported
from Petropavlovsk is fish products; imports consist mainly of capital goods.
Nagayevo, the port for Magadan, exports timber, special ores, gold, and
furs. (If the port were connected by rail with other areas, the importance

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of Magadan would be markedly increased.) In any case, from the trade
and industrial point of view, Magadan is now reported to be at least
as important as Petropavlovsk. The export traffic of the industrial
cities of Khabarovsk and Komsomol'sk (actually on the Amur River but
available to ocean trade) consists of soy beans, foodstuffs, and steel
products of the Amur Valley and Manchuria. Khabarovsk is reported to
be the chief transshipment center in the Soviet Far East, 25/ ranking
above Vladivostok in that respect. The port also has the great geographic
advantage of a more centralized location than Vladivostok. The north-
east ports send raw materials, coal, and fish to Khabarovsk, Komosomol'sk,
and other Soviet Pacific ports to the south. These ports also receive
lumber from the Siberian ports, such as Anadyr' and Okhotsk, and manu-
factured goods from Vladivostok and the Baltic and Black Sea ports.

4. Traffic with the Satellites.

Before World War II, in contrast to the present situation,
the volume of ocean traffic between the USSR and the present Satellites
was of no great importance. The raw materials and basic commodities
available for export in the USSR were to a considerable degree similar
to the export commodities of the Satellites. The manufactured goods of
the Satellites, moreover, went largely to the West, especially Germany,
the UK, and the US. Soviet trade policy, furthermore, kept imports to
a minimum. For example, for the years 1936-38, 0.4 percent (by value)
of all Polish exports went to the USSR, and the USSR supplied only 1.1
percent of Polish imports. 26/   50X1

Despite the lack of definitive statistics on actual volume,
certain conclusions are possible. For example, the USSR is the fore-
most trading partner of the Satellites, and there is a rising trend in
the volume of ocean-borne traffic. This trend is especially true of
East Germany, Poland, and Rumania, which account for the bulk of Soviet
ocean-borne trade.

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Soviet ocean trade with the Satellites varies from country to country in both nature and volume. Soviet ships carry relatively large cargoes of Polish coal from Stettin (Szczecin) to Leningrad and bring back substantial tonnages of ferrous and nonferrous ores, grain, and cotton (the USSR supplied 70 percent of Polish cotton requirements for 1946 [27]).

From Rostock and Wismar the volume of traffic with East Germany is also large. Soviet ships are active in carrying industrial goods, reparations and otherwise, to Leningrad and in bringing back lumber and grain.

The volume of traffic with Rumania is important. Soviet tankers lift Rumanian oil, the major Rumanian export to the USSR, at Constanta and transport it to Odessa and Nikolayev as well as to the Far East. In return, the USSR carries cotton, wheat, pig iron, and coal by sea to Constanta.

Soviet-flag traffic with Bulgaria is relatively slight in volume. Bulgaria ships tobacco and agricultural products by sea from Burgas and Stalin (formerly Varna) to Odessa, other Black sea ports, Leningrad, and the Far East, receiving cotton from the Black Sea and industrial goods from the Baltic ports.

Soviet ocean traffic directly with Hungary is of little consequence except for an occasional small ship which sails up the Danube to Budapest. Ocean trading with Hungary is carried on through Constanta. Soviet ships load Hungarian machinery, bauxite, and cotton goods and bring back raw cotton (a large part of the total Hungarian cotton requirement being supplied by the USSR), ferrous metals, phosphate, and other chemicals.

Traffic with Czechoslovakia is likewise carried on at foreign ports in West Germany, Poland, and Rumania. Active trading through Poland via the Oder River and Stettin (Szczecin) probably accounts for the major portion of the total volume of Soviet-flag traffic with Czechoslovakia, but there are also movements through Hamburg and Constanta. Cargoes consist of industrial products and consumer goods, especially shoes, to the USSR and a wide range of raw materials in return. Czechoslovakia is particularly dependent on imports of raw materials for its economy (in 1937, raw materials accounted for 58 percent of all imports [28]), and in the current East-West trade impasse it looks to the USSR for such imports.

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Albania depends heavily on Soviet maritime traffic for most of its meager requirements. [   ] 50X1 few Soviet ships call at Albanian ports, the bulk of maritime traffic being carried by Satellite and Western ships. During December 1951, for example, of 14 vessels calling at Albanian ports, only 3 carried the Soviet flag. 29/ Soviet-flag traffic to Durazzo and Valona consists of such basic goods as textiles, machinery, and industrial equipment. Outbound the Soviet ships carry hides, grain, livestock, chrome ore, and wool to Odessa and other Black Sea ports, and Albanian oil moves to Soviet Baltic ports. 30/ One other important function of Soviet shipping to Albania is the supply of military garrisons, such military traffic probably far exceeding commercial cargoes.

Traffic between the northern and the far eastern parts of the USSR and the Satellites is of little importance. [   ] 50X1 [   ] it is apparent that the Satellites can 50X1 furnish little of the industrial requirements of that area and in turn can use little of its available exports. [   ] 50X1 [   ] the USSR 50X1 is employing British ships for much Soviet-Satellite traffic in the Soviet Far East.

Soviet ship traffic to Chinese Communist ports until recently has been limited mainly to infrequent calls at Dairen from Soviet Pacific ports except for a few voyages from Baltic and Black Sea ports with general cargo to take on return loads of soybean products. Recently, however, the volume of such traffic has increased and may become of some importance. Several calls have been made at Tsingtao (Ch'ing-tao) and Ta-ku to take on cargoes of iron ore and soybeans for Black Sea and Baltic ports. One of the first such vessels loaded 6,093 long tons of iron ore at Tsingtao for Stettin (Szczecin). 31/

5. Traffic with Non-Bloc Countries.

A detailed survey of available data, including Lloyd's Shipping Index, indicates that the volume of Soviet-flag ocean traffic with countries outside the Soviet Bloc is relatively small in comparison with domestic and Satellite operations. Analysis of the voyage pattern of Soviet shipping over the past 18 months indicates that although the number has increased steadily, possibly because of Far East supply requirements, no more than about 10 percent of the Soviet merchant fleet is active outside Bloc waters. On 13 February 1952, for example, only 50 ships of the Soviet merchant fleet were actively engaged in operations outside Bloc waters. 32/ (For disposition of Soviet merchant shipping

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in non-Bloc waters as of 13 February 1952, see the accompanying map.*) For typical voyage patterns, see Appendix B, which is based on a detailed study of operations over the past year and a half. Despite the wide range of activity evidenced outside the Bloc area, a survey of Soviet ship movements shows that operations outside the Bloc are largely confined to European and Mediterranean ports. 33/

Soviet ships have not touched at US ports since July 1950. Soviet-flag operations to the Western Hemisphere are now confined to very rare calls at Central American and Caribbean ports to pick up cordage fibers. Soviet ships call infrequently at Pacific island ports except the areas adjacent to the Southeast Asian mainland. A few calls each year are made to Australian ports to pick up wool cargoes for Odessa.

Occasional calls (about three a month) are made at Alexandria to discharge wheat from Odessa and pick up cotton and rice for Black Sea ports of Odessa and Nikolayev under the current Egyptian-Soviet trade barter agreement. 34/ Calls at other ports on the African continent are infrequent, being confined largely to the Mediterranean and North Africa.

In recent months the Soviet merchant fleet has made a great show of calling at Indian ports to deliver insignificant cargoes of grain from the Black Sea, returning with valuable cargoes of fibers (such as jute) and textiles for the USSR, and Indian coal has been discharged at Italian ports. The actual volume of Soviet traffic with India has, however, been relatively slight. 35/ India and Ceylon, however, have served to provide the USSR with small quantities of strategic commodities including oil, rubber, and industrial equipment obtained through devious transshipment channels.

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Soviet-flag traffic with Southeast Asian ports such as Singapore and Hong Kong is surprisingly slight. Singapore is important mostly as a bunker port from and to the Soviet Far East, very little cargo being handled. Hong Kong is also unimportant as a traffic port of call for Soviet vessels. For example, during the second week of November 1951, of 46 ships calling at the port, only 1 carried the Soviet flag. This vessel, furthermore, was reported to be the first such ship to call at Hong Kong since the spring of 1951. 36/

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Traffic with Western Europe constitutes the bulk of non-Bloc Soviet shipping traffic (possibly as much as 75 percent of all non-Bloc cargoes lifted). Soviet ships load and discharge cargoes at ports of virtually all Western European countries except Spain. It is characteristic of such operations, however, that cargoes loaded usually exceed those discharged in both volume and value. In fact, a large proportion of Soviet-flag ships arrive in ballast at European ports, picking up cargoes for discharge at Soviet, Satellite, and Scandinavian ports.

Traffic with Italy is an important feature of Soviet European ship traffic. Coal from Poland and grain from Novorossiysk and Odessa are major items of traffic moving to Genoa and Naples in Soviet ships. On the return voyage these vessels lift a wide range of machinery, copper wire, metal sheets, and similar products mostly consigned to Black Sea ports. From Palermo, Soviet vessels take citrus fruit to Odessa. 37/ Despite Western restrictions on industrial traffic with the USSR, it is probable that Italy remains an important source for a large group of industrial products, and much of such trade naturally moves by sea, in Soviet ships whenever possible, to escape surveillance.

Soviet-flag ships carry on considerable traffic with northern French ports. Traffic between the USSR and Northern France moves mainly between Le Havre and Rouen to the Baltic Sea ports and Leningrad. Although the volume of such traffic is not great (only two or three ships monthly from all Northern French ports), it is probably of considerable value to the USSR. Le Havre is the import-export center for Northwestern France, and a large part of the varied industrial output of that section moves through the port, while Rouen, up the Seine, affords access to the interior. Soviet cargoes discharged generally are lumber, naval stores, grain, and fertilizers, and manufactured goods are loaded. Soviet Black Sea ships call infrequently at minor French Mediterranean ports such as Sète, but only two Soviet ships called at Marseille between 1946 and the end of 1951. 38/ From Bordeaux, occasional Soviet ships carry wire and textiles to Black Sea and Baltic ports and return with coal, raw chemicals, and food products.

The lack of Soviet-flag traffic with Spain reflects the status of political relations between the two countries rather than the actual absence of water-borne traffic between them. Cargoes from Spain -- mercury, for example -- are transshipped in London and elsewhere, and it is likely that a similar situation exists with respect to cargoes of Soviet origin moving to Spain. Such traffic is not of sufficient volume to be of consequence in Soviet water transport.

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Soviet-flag traffic with Portugal consists primarily of occasional cargoes of cork loaded at Lisbon for Odessa and Leningrad in exchange for Black Sea grain or White Sea timber.

Antwerp has been one of the leading ports for Soviet-flag shipping on the Continent. Activity is, however, quite irregular and during recent months may have begun to decline as the result of the tightening of Western trade controls. For example, no Soviet-flag ships called at Antwerp during the 4 weeks ending 17 September 1951, in contrast to four calls during the first half of the previous August alone, four in July, eight in June, and six in May. 39/ Soviet ships bring lumber, pit props, and related products from Baltic and White Sea ports and return to Leningrad and the Baltic ports with a great variety of industrial goods and semifinished and raw materials now in short supply in the USSR or goods on restricted trade lists. One significant aspect of the traffic is the fact that Soviet ships often enter or leave Antwerp in ballast, indicating either a shortage of suitable export goods or Soviet urgency for the cargoes lifted.

Soviet-flag traffic with the Netherlands is relatively heavy and is concentrated in the port of Rotterdam. Four to six ships call at Rotterdam each month (the number varying somewhat) from Leningrad and the ports on the Baltic. 40/ The vessels bring in coal, coke, and timber, carrying out general industrial cargoes similar to those lifted in Antwerp. Rotterdam, like Antwerp, is a major Western European center for sensitive cargoes moving to the USSR, often in violation of trade restrictions. There is little Soviet-flag traffic with West Germany, and it is not possible to establish any pattern of trade.

Soviet ships are active in trade with Sweden, Finland, and to a lesser degree with Norway and Denmark. 41/ Polish coal is a major cargo at present, but the high price demanded is forcing these countries to seek supplies elsewhere.

Although the USSR is not a leading trade partner of Sweden, the fairly small volume of ocean traffic is of some strategic significance. For example, Soviet ships bring in Polish coal, upon which Sweden is greatly dependent, and take out iron ore from Lulea. Soviet ships also call at Stockholm with asbestos, other raw materials, and furs from Leningrad. On the return voyage they carry machinery and special steel products such as ball bearings and technical equipment to Leningrad. There is also considerable traffic carried in Soviet-flag ships between Soviet Baltic and Polish ports and Stockholm. 42/ The general pattern of trade may be described as the carriage of raw products to Stockholm in return

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for industrial and finished goods. 43/

Soviet-flag traffic with Finland, negligible before World War II, is now relatively large, even after discounting the large volume of goods delivered as reparations to the USSR. For example, during October 1951, five Soviet ships called at Helsinki. 44/ Much of the traffic goes by sea despite the existence of rail lines across the adjoining borders. The·principal Finnish ports of call are Abo and Helsinki for import traffic, while Kotko, on the Gulf of Finland east of Helsinki, is the center for export traffic. Finnish goods are carried principally to Leningrad, but cargoes also move to Riga, Liepaja, and other Soviet Baltic ports. In accordance with the usual Soviet trade pattern, Finnish industrial products, such as paper, machinery, and textiles, are traded for Soviet raw materials. One interesting deviation from this pattern, however, is the considerable tonnage of lumber and timber products such as wood pulp and cellulose sent to the USSR. Soviet ships also carry coal from Poland and such cargoes as oil cake from East Germany to Finland and bring back typical Finnish exports to Gdynia and Rostock.

Soviet-flag traffic with Norway is slight, although Soviet ships participate in carrying in Polish coal.

Soviet-flag shipping transports dairy products, meat, and industrial goods from the Danish ports of Aarhus, Copenhagen, and Odense to Leningrad, Riga, Tallinn, and other Soviet Baltic ports and returns with coal, coke, iron ores, and grain from Soviet and Satellite ports in the Baltic and the Gulf of Finland (Leningrad, Tallinn, Riga, Liepaja, Gdynia, Rostock).

Soviet trade with the UK covers a wide range of commodities which are complementary to the needs and production of each country. In past years a large part, if not the major portion, of this trade was carried in British vessels, but since World War II Soviet ships have greatly increased their trade participation. In 1949, for example, 95.2 percent of British exports to the USSR went in Soviet-flag ships. 45/ Soviet ships also are increasing their share of timber bound for the UK from the White Sea. Soviet vessels call at Hull, Liverpool, London, and other UK ports with cargoes of lumber and timber products from Leningrad and the Arctic ports (Murmansk, Archangel, Igarka). Fur is another important item of traffic moving from Leningrad to London. Soviet-flag ships also carry large quantities of Black Sea grain to the UK and pick up a wide variety of British-manufactured industrial products along with commodities such as wool and rubber originating elsewhere but transshipped in the UK.

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Although this exchange of trade apparently is of great importance to each country and comprises a large portion of all Soviet-flag foreign trade, the dollar value is fairly slight. In 1947, for example, imports directly from the USSR accounted for less than one-half of 1 percent of the total dollar value of all UK imports, while exports (including re-exports) to the USSR accounted for slightly more than 1 percent of the value of all UK exports. 46/ These percentages, furthermore, are considerably less than the comparable percentages for the years prior to World War II, when the USSR accounted for about 3 percent of the UK import trade and slightly less than 4 percent of the export trade. 47/

C. Trends.

The trend in Soviet-flag ocean traffic, as reported by Soviet sources, has been fairly steadily upward in recent years despite definite peaks and valleys in the trend. For example, the 1949 carriage of goods by sea was 15 percent higher than in 1948, 48/ and 1950 carriage exceeded that of 1949 by 9 percent. 49/ The plan to increase 1950 turnover by 8 percent in 1951 was met, according to a report by the Council of Ministers of the USSR. 50/ Traffic plans for 1952 are not available, but it is likely that slight increases of 8 to 12 percent are scheduled.

Despite the steady improvements reported in cargo-handling, the performance of the Soviet merchant fleet is unsatisfactory to Soviet authorities. For example, although freight turnover was scheduled to increase by 220 percent in 1950 over 1940, the actual increase was only 65 percent. 51/ On this basis it is estimated that in 1950 the traffic performance of the Soviet fleet totaled about 38 billion ton-kilometers. (This estimate is arrived at by applying the 65-percent increase reported by the USSR to a 1940 figure of 23 billion ton-kilometers, previously quoted in an official Soviet source. 52/)

Although ton-kilometer performance increased by 65 percent in 1950 over 1940, the increase in tons of cargo carried by the Soviet-flag merchant fleet in 1951 is estimated to exceed only slightly the 30.3 million metric tons carried in 1938. 53/ (This estimate is derived by dividing the 38 billion ton-kilometer performance estimated for the fleet in 1950 by the average haul of 1,340 kilometers planned for 1950, 54/ adjusted in accordance with the 8 percent increase in ton-kilometer performance reported by the USSR for 1951.)

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III. Significance of Soviet-Flag Traffic to the Economy of the USSR.

Despite its small share, estimated at 6 percent, of the total Soviet traffic load, the traffic carried between Soviet ports by the Soviet merchant marine is an important factor in maintaining the present levels of the USSR's domestic economy.

The curtailment or elimination of these services would adversely affect the over-all Soviet transportation pattern to the extent that this traffic would have to be superimposed on the existing burden carried by the Soviet railroads. Although 30 to 40 billion additional ton-kilometers could probably be performed annually by the railroads to accommodate such traffic, serious bottlenecks probably would develop, requiring the readjustment of priorities for shipments. For example, if cargoes of wheat, cement, and oil now carried to the Far East by sea were routed by rail, they would almost certainly displace the traffic in high-priority industrial and war materials now being carried over the Trans-Siberian Railroad to the Manchurian railhead destined for China.

Soviet shipping operations over the Northern Sea Route in the Arctic area are of great significance to the USSR and have been consistently emphasized in Soviet long-range planning. The economic expansion now under way in the Arctic and North Pacific areas includes important forestry and mining industries which are inaccessible to land transportation and depend entirely on ocean transport for their maintenance and the carriage of their products to consuming centers. Operation of the Northern Sea Route also provides a secondary means of transport for transcontinental traffic during certain months of the year.

Soviet-flag ocean traffic with the West is not of great significance. Only a small portion of the Soviet merchant fleet trades with non-Communist countries, and although the goods transported, such as timber from the White Sea and grain and manganese ore from the Black Sea ports, are important as sources of foreign exchange, they could presumably be carried entirely by Satellite or Western vessels. The ability of the USSR to charter any required tonnage from the West eliminates the requirement to maintain a large fleet to meet its demands for merchant tonnage, which are highly seasonal in nature.

Tightened shipping controls by the West would, however, pose a problem for Soviet foreign trade. The USSR is carrying increasing quantities of its lumber and grain trade, but the bulk of the traffic moves in foreign ships. Denial of this essential foreign tonnage would certainly hamper greatly the Soviet foreign trade program and might even force some economic reorientation.

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APPENDIX A

SELECTED MARITIME PORTS OF THE USSR:
ESTIMATED CAPACITIES AND MAJOR COMMODITIES HANDLED a/†
1952

Area and Port	Cargo-Handling Capacity b/ 55/ (Long Tons)	Imports 56/	Exports 56/
Arctic			
Ambarchik*	500	Mine equipment	Gold*
Amderma*	500	N.A.	Fluorspar*
Anadyr'*	500	Miscellaneous equipment, foodstuffs	Coal
Archangel*	30,000	Coal, machinery	Timber,* flax, chrome, naval stores*
Belomorsk	2,000	N.A.	Lumber, pulpwood
Chelyuskin	500	N.A.	N.A.
Dikson Island*	1,600	N.A.	Lumber,* coal*
Dudinka	1,500	Mine machinery	Nickel,* copper, coal,* lumber
Igarka*	2,000	Industrial equipment	Lumber,* graphite*
Kandalaksha	1,200	N.A.	Timber, apatite, fish
Kem'*	3,600	N.A.	Timber*
Khabarovo	500	N.A.	N.A.
Mezen'	500	Machinery	Timber,* furs, ores
Molotovsk*	3,000	N.A.	Lumber,* pulp,* apatite, magnesite
Murmansk	8,000	Coal, machinery	Lumber,* fish, apatite*
Nar'yan-Mar	500	N.A.	Lumber,* coal
Nordvik	500	N.A.	Salt,* coal
Novyy Port	500	N.A.	Fish, timber
Onega*	3,500	Coal, machinery	Timber*

† Footnotes follow on p. 34.

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SELECTED MARITIME PORTS OF THE USSR:
ESTIMATED CAPACITIES AND MAJOR COMMODITIES HANDLED a/
1952
(Continued)

Area and Port	Cargo-Handling Capacity b/ 55/ (Long Tons)	Imports 56/	Exports 56/
Arctic (Continued)			
Provideniye*	1,200	Miscellaneous machinery, industrial equipment	Coal,* furs*
Tiksi*	500	Industrial machinery	Coal*
Ust' Port	500	N.A.	N.A.
Yushino	500	N.A.	Oil, furs, fish
Baltic			
Baltiysk*	8,000	N.A.	N.A.
Kaliningrad*	25,000	Coal, pulp, fertilizer	Grain, lumber
Klaipeda*	6,000	Coal, fertilizer, cement, pyrites*	Lumber, pulp, dairy products
Leningrad*	30,000	Machinery, coal	Grain, timber,* furs, flax
Liepaja*	18,000	Oil, coal,* machinery,* fertilizer, textiles	Lumber, grain
Loksa	N.A.	N.A.	N.A.
Lomonosov	500	N.A.	Lumber, fish
Paldiski	500	N.A.	N.A.
Pärnu	500	N.A.	Lumber, pulpwood, flax
Riga*	20,000	Coal,* textiles	Lumber,* flax, grain
Tallinn*	10,000	Coal, sugar,* fertilizer, timber	Paper, textiles, lumber

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SELECTED MARITIME PORTS OF THE USSR:
ESTIMATED CAPACITIES AND MAJOR COMMODITIES HANDLED a/
1952
(Continued)

Area and Port	Cargo-Handling Capacity b/ 55/ (Long Tons)	Imports 56/	Exports 56/
Baltic (Continued)			
Ventspils*	11,000	Oil, fertilizer, coal, sugar, cement	Lumber,* dairy products, grain
Vyborg*	13,000	Textiles, machinery, grain	Lumber,* dairy products, cement
Black Sea			
Azov	500	N.A.	Grain*
Batumi	3,100	Oil, machinery,* tools	Oil,* silk, lumber, fruits, manganese, tobacco
Feodosiya	3,900	Machinery	Grain, coal, sugar, tobacco
Genichesk	1,000	N.A.	Grain*
Izmail	N.A.	N.A.	Grain, lumber
Kerch'	4,300	N.A.	Grain, iron ore,* linseed, wool
Kherson*	4,000	Oil*	Wheat,* timber, coal,* iron ore*
Nikolayev*	10,500	Oil, machinery, manufactures, foodstuffs	Grain,* oil cake, iron ore, manganese
Novorossiysk*	14,500	Machinery, coal	Iron ore, oil, coal, grain,* chrome,* cement,* asbestos
Ochemchiri*	1,000	N.A.	Coal,* grain
Odessa*	19,000	Agricultural machinery, oil, coal, cement	Grain,* steel products, rails, vegetable oil, wool, lumber

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SELECTED MARITIME PORTS OF THE USSR:
ESTIMATED CAPACITIES AND MAJOR COMMODITIES HANDLED a/
1952
(Continued)

Area and Port	Cargo-Handling Capacity b/ 55/ (Long Tons)	Imports 56/	Exports 56/
Black Sea (Continued)			
Osipenko	2,500	N.A.	Grain,* oil, wool, salt
Poti	6,400	N.A.	Manganese,* maize, wine, lumber
Rostov*	5,300	N.A.	Grain, coal, lumber
Sevastopol'	N.A.	Lumber, hardware, foodstuffs	Grain, stone, flour, cattle
Sochi	1,100	N.A.	N.A.
Sukhumi*	500	N.A.	N.A.
Taganrog	3,300	Manufactures, oil	Grain,* wool, dairy products, coal*
Tuapse*	8,500	Timber, cement	Oil,* machinery, grain, lumber, agricultural products
Yalta	1,200	Manufactures, construction materials, grain, coal	Wine,* fruit, tobacco
Yevpatoriya	N.A.	N.A.	N.A.
Yeysk*	2,500	N.A.	Grain, salt
Zhdanov*	9,500	N.A.	Coal,* grain*
Pacific			
Aleksandrovsk	500	N.A.	Coal, fish
De-Kastri	1,200	N.A.	N.A.
Khabarovsk*	N.A.	Grain, manufactures, cement, oil	Agricultural products, lumber

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SELECTED MARITIME PORTS OF THE USSR:
ESTIMATED CAPACITIES AND MAJOR COMMODITIES HANDLED a/
1952
(Continued)

Area and Port	Cargo-Handling Capacity b/ 55/ (Long Tons)	Imports 56/	Exports 56/
Pacific (Continued)			
Kholmsk (Maoka)	3,700	N.A.	Lumber, paper, fish, coal
Komsomol'sk*	1,300	N.A.	Steel, manufactures
Korsakov (Otomari)	7,000	N.A.	Lumber, fish, coal, paper
Magadan (Nagayevo)*	1,500	Machinery, manufactures, oil	Gold, coal, ores*
Moskal'vo	500	N.A.	Oil*
Nakhodka*	9,000	Explosives,* foodstuffs	Coal,* fish
Nevel'sk (Honto)	3,400	N.A.	Lumber, paper, coal, fish
Nikolayevsk*	2,200	Coal, machinery	Furs, salmon,* timber, oil*
Okha	500	N.A.	Oil
Okhotsk	500	N.A.	Fish
Petropavlovsk*	3,500	Foodstuffs, machinery, coal,* lumber	Fish,* tin cans
Poronaysk (Shikuka)	N.A.	N.A.	Timber, paper, fish
Severo-Kuril'sk (Kashiwabara)	500	N.A.	Sulphur, fish
Sovetskaya Gavan'*	10,000	N.A.	Coal, lumber, fish
Uglegorsk (Esutoru)	4,500	N.A.	Coal, paper
Ust'-Kamchatsk	500	N.A.	Fish

S-E-C-R-E-T

SELECTED MARITIME PORTS OF THE USSR:
ESTIMATED CAPACITIES AND MAJOR COMMODITIES HANDLED a/
1952
(Continued)

Area and Port	Cargo-Handling Capacity b/ 55/ (Long Tons)	Imports 56/	Exports 56/
Pacific (Continued)			
Vladivostok*	18,000	Flour,* machinery,* oil	Timber, soybeans,* fish
Yuzhno-Sakhalinsk (Toyohara)	500	N.A.	Agricultural products, sugar, lumber

a. Major ports and major items of traffic of strategic significance are designated by an asterisk.

b. Estimated on the basis of 100 long tons of military cargo per ship hatch per 20-hour day; the alternate capacity for general commercial cargo is somewhat lower.

S-E-C-R-E-T

S-E-C-R-E-T

APPENDIX B

TYPICAL VOYAGE PATTERNS OF SOVIET MERCHANT SHIPS 57/
1952

1. In Foreign Trade

Between

Archangel	London-Liverpool
Igarka	London-Liverpool
Leningrad	Helsinki-Stockholm-Gdynia-Riga
Leningrad	Liepaja-Gdynia-Stettin (Szczecin)-Swinemuende-Rostock
Leningrad	Stockholm-London-Rotterdam
Leningrad	Rotterdam-Antwerp-Le Havre-Rouen
Murmansk	Rotterdam-Le Havre
Novorossiysk	Alexandria-Genoa
Novorossiysk	Karachi-Bombay-Colombo-Madras-Calcutta-Vladivostok
Odessa	Constanta-Alexandria
Odessa	Venice-Naples-Genoa-Sète
Odessa	Genoa-Le Havre-Rotterdam-Gdynia
Poti	Gdynia-Leningrad
Vladivostok	Saigon-Colombo
Vladivostok	Kobe-Osaka-Yokohama
Vladivostok	Dairen-Tientsin (T'ien-Ching)-Stettin (Szczecin)-Leningrad

2. In Domestic Trade

Between

Archangel	Onega-Molotovsk-Igarka-Provideniye
Batumi	Odessa-Leningrad
Leningrad	Liepaja-Riga
Leningrad	Tallinn-Kaliningrad
Leningrad	Odessa
Leningrad	Vladivostok-Nakhodka-Magadan (Nagayevo)
Murmansk	Dikson Island-Nordvik-Tiksi-Provideniye-Anadyr'
Novorossiysk	Kaliningrad-Leningrad
Odessa	Leningrad

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TYPICAL VOYAGE PATTERNS OF SOVIET MERCHANT SHIPS 57/
1952
(Continued)

2. In Domestic Trade
(Continued)

	Between
Odessa	Vladivostok-Sovetskaya Gavan'
Odessa	Rostov-Batumi
Poti	Odessa-Klaipeda-Liepaja-Riga-Leningrad
Vladivostok	Sovetskaya Gavan'-Okhotsk-Provideniye
Vladivostok	Khabarovsk-Sovetskaya Gavan'
Vladivostok	Aleksandrovsk-Nikolayevsk
Vladivostok	Korsakov (Otomari)-Petropavlovsk

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NOTE: Ship names are from LLOYD'S SHIPPING INDEX

ITINERARIES

ADMIRAL USHAKOV	Sailed Far East; Singapore Roads, Pulo Bukom, Suez, Port Said, Gibraltar, Avonmouth, Lisbon; bound Odessa
AKADEMIK KRILOV	Sailed Leningrad; Antwerp; bound China
AMDERMA	Sailed Stettin; Gibraltar, Port Said, Suez, Aden, Colombo; bound Vladivostok
ARGUN	Sailed Odessa; Alexandria Roads, Port Said, Suez, Aden; bound Vladivostok
ASKOLD	Sailed Odessa; passed Istanbul; bound Ta-ku Bar
BELOOSTROV	Sailed London; arrived Stockholm; bound Riga
BELORUSSIA	Sailed Venice; bound Odessa
BRIVIBA	Sailed Rotterdam; passed Cuxhaven; bound Kaliningrad
BUDENNI	Sailed Gdynia; Vlaardingen, passed Gibraltar; bound Genoa or Bari
CHELYUSKINETS	Sailed Far East; Suez, Port Said; arrived Liverpool
DIMITRI DONSKOY	Sailed Odessa; Port Said, Suez; bound Vladivostok
ENISEI	Sailed Murmansk; Antwerp, Hull; bound Murmansk
ENISEISK	Sailed Gdynia; passed Cuxhaven, Gibraltar; bound Dairen
GENERAL BAGRAMIAN	Sailed Kaliningrad; arrived Copenhagen
GLEB USPENSKI	Sailed Gdynia; passed Cuxhaven; bound Dairen
GRIBOJEDOV	Sailed London; passed Cuxhaven; bound Riga
HENRI BARBUSSE	Sailed Amsterdam; Great Yarmouth, passed Cuxhaven; bound Riga
LJOHA	Sailed Odessa; passed Istanbul; bound Alexandria
IRTISH	Sailed Kaliningrad; Gibraltar, Port Said, Suez, Colombo; bound Vladivostok
ISMAIL	Sailed Odessa; Port Said, Suez, Port Sudan, Singapore Roads; bound Vladivostok
IVAN POLZUNOV	Sailed Far East; Singapore Roads, Aden, Suez, Port Said; bound Odessa
IVAN TURGENEV	Sailed Antwerp; bound Tomsche
JEAN JAURES	Sailed Gdynia; passed Cuxhaven; bound China
JOSIF STALIN	Sailed Far East; Singapore Roads, Suez, Port Said; bound Odessa
KAMA	Sailed Rotterdam; bound Kaliningrad
KARAMZIN	Sailed Riga; Odessa; bound Aalborg
KOLKHOSNIK	Sailed Vladivostok; Singapore Roads, Aden; bound Novorossiysk
KREML	Sailed Batumi; passed Istanbul; bound Antarctic
LUBAN	Sailed Riga; Esbjerg, Ventspils; arrived Rotterdam
MICHURIN	Sailed Leningrad; Aarhus, Antwerp; bound Genoa
MOLOTOV	Sailed Murmansk; passed Helsingor; bound?
NEVELSK	Sailed Leningrad; Gibraltar, Port Said, Suez, Port Sudan, Aden, Colombo, Singapore Roads; bound Vladivostok
NICOLAEV	Sailed Odessa; Port Said, Suez, Bombay, Colombo; bound Singapore
NORELSK	Sailed Odessa; Port Said, Suez; bound Vladivostok
PSKOV	Sailed Dairen; Singapore Roads, Suez, Port Said, passed Gibraltar; bound Stettin
SEVASTOPOL	Sailed Tsingtao; Singapore Roads, Suez, Port Said, passed Gibraltar; bound Stettin
SLAVA	Sailed Odessa; passed Istanbul, Capetown; bound Antarctic
STALINABAD	Sailed Riga; arrived Ijmuiden
STRELNA	Sailed Kaliningrad; passed Cuxhaven; bound Amsterdam
SUKHONA	Sailed Stettin; bound Antwerp
SURA	Sailed Kaliningrad; Rotterdam; arrived London
SURIKOV	Sailed Klaipeda; passed Cuxhaven, Ijmuiden; bound Antwerp
SYGUILDA	Sailed Amsterdam; London; bound Riga
TARAS SHEVCHENKO	Sailed Far East; Pulo Bukom, Aden, Suez, Port Said; bound Stettin
TARTU	Sailed Kaliningrad; Aalborg, Esbjerg, passed Cuxhaven; arrived London
TIMIRIAZEV	Sailed Poti; passed Gibraltar; bound Gdynia
TOBOLSK	Sailed Pietra Legure; arrive Genoa
VITEGRA	Sailed Ventspils; arrived Liverpool
VOLGA	Sailed Dairen; Singapore Roads, Suez, Port Said, Gibraltar; bound London
VOLOCHAEVSK	Sailed Ventspils, Rotterdam, Rouen, Dunkirk; bound Riga

TYPICAL DISPOSITION OF SOVIET MERCHANT SHIPPING
IN NON-COMMUNIST WATERS
(Vessels plotted at last reported position)
13 FEBRUARY 1952

Scale 1:30,000,000

Statute Miles
200 400 600 800 1000   2000   3000

Kilometers
200 400 600 800 1000   2000   3000

Scale true only at 30°

Scale 1:11,400,000

Statute Miles
100   200   300   400   500

Kilometers
100 200 300 400 500

Scale true only at 55°

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